ATTACHMENT 1 : AMENDMENTS TO CLAIMS
SERIAL NUMBER 10/677,444 (MANSMANN)

This attachment includes a complete listing of all claims ever presented, including the text of all pending and withdrawn claims, in this application.

1. (Currently amended) A surgical implant for replacing damaged cartilage in a joint lubricated by synovial fluid, comprising:

a. a hydrogel material made from a synthetic polymer, and having at least one smooth and lubricious surface which has a negative electrical charge density that promotes lubricious interactions with mammalian synovial fluid; and,

b. a fibrous matrix that extends through at least a portion of the hydrogel material and reinforces the hydrogel material.

2. (Original) The surgical implant of Claim 1, wherein the smooth and lubricious surface has a negative electrical charge density within a range of about -50 to about -250 millimolar, when measured by sodium equilibration.

3. (Original) The surgical implant of Claim 1, wherein the smooth and lubricious surface contains sulfur atoms.

4. (Original) The surgical implant of Claim 3, wherein the smooth and lubricious surface contains sulfate groups.

5. (Original) The surgical implant of Claim 2, wherein the smooth and lubricious surface has been treated with a chemical reagent that creates crosslinking bonds between polymeric molecules.

6. (Original) The surgical implant of Claim 2, wherein the smooth and lubricious surface contains halogen atoms bonded to carbon atoms.

7. (Original) The surgical implant of Claim 1, wherein the implant has two smooth and lubricious surfaces, and is sized and designed to replace meniscal or labrum tissue.

8. (Original) The surgical implant of Claim 1, wherein the implant is sized and designed for anchoring to a prepared bone surface.

9. (Original) The surgical implant of Claim 8, wherein the implant has a porous anchoring surface that will promote ingrowth of bony tissue, after surgical implantation.

10. (Original) The surgical implant of Claim 8, wherein the implant comprises a non-planar interface layer having multiple perforations, positioned between a smooth and lubricious surface and an anchoring surface.

11. (Original) The surgical implant of Claim 8, wherein the synthetic polymer comprises a polyacrylate derivative.

12. (Original) The surgical implant of Claim 8, wherein the synthetic polymer comprises a polyacrylonitrile derivative.

13. (Original) A surgical implant for replacing meniscal or labrum tissue, comprising:

a. a polymeric hydrogel component, at least a portion of which is reinforced by a flexible fibrous matrix, and having two smooth surfaces for articulation following surgical implantation, both surfaces having negative electrical charges;

b. at least one anchoring component that is designed to allow anchoring of the implant to soft tissue.

14. (Original) The surgical implant of Claim 13, wherein at least one smooth surface for articulation has a negative electrical charge density within a range of about -50 to about -250 millimolar, when measured by sodium equilibration.

15. (Original) The surgical implant of Claim 13, wherein the smooth and lubricious surface contains sulfur atoms.

16. (Original) The surgical implant of Claim 2, wherein the smooth and lubricious surface has been treated with a chemical reagent that creates crosslinking bonds between polymeric molecules.

17. (Original) The surgical implant of Claim 2, wherein the smooth and lubricious surface contains halogen atoms bonded to carbon atoms.

18. (Original) The surgical implant of Claim 8, wherein the polymeric hydrogel component comprises a polyacrylate derivative.

19. (Original) A surgical implant for replacing a cartilage segment that covers a hard bone surface, comprising:

a. a polymeric hydrogel component, at least a portion of which is reinforced by a flexible fibrous matrix, and having at least one smooth and lubricious articulating surface having a negative electrical charge; and,

b. at least one anchoring surface designed to promote ingrowth of osseous tissue following surgical implantation.

20. (Original) The surgical implant of Claim 19, wherein the articulating surface has a negative electrical charge density within a range of about -50 to about -250 millimolar, when measured by sodium equilibration.

21. (Original) The surgical implant of Claim 19, wherein the articulating surface contains sulfur atoms.

22. (Original) The surgical implant of Claim 19, wherein the articulating surface has been treated with a chemical reagent that creates crosslinking bonds between polymeric molecules.

23. (Original) The surgical implant of Claim 19, wherein the articulating surface contains halogen atoms bonded to carbon atoms.

24. (Original) The surgical implant of Claim 19, containing a non-planar interface layer having multiple perforations, positioned between the articulating surface and the anchoring surface.

25. (Original) A method of manufacturing a non-resorbable surgical implant for replacing cartilage in a mammalian joint, comprising the following step:

a. creating a hydrogel material made from a synthetic polymer, and having at least one smooth surface for articulation after surgical implantation, and having a fibrous reinforcing matrix that extends through at least a portion of the hydrogel material; and,

b. subjecting at least one smooth surface of the hydrogel material to a chemical treatment that imparts a negative electrical charge to the smooth surface, in a manner that creates a treated charge density that promotes lubricious interactions between the smooth surface and mammalian synovial fluid.

26. (Original) The method of claim 25, wherein the surgical implant is also provided with an anchoring surface that is designed to promote ingrowth of osseous tissue following surgical implantation.

27. (Currently amended) The method of claim ~~25,~~ 26, wherein the hydrogel material is coupled to the anchoring surface that promotes ingrowth of osseous tissue, by means of a non-planar interface layer having multiple perforations.